

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 53, 55, 60 and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by either Thomas et al (3044146) or Brock et al (4041203).

Both Thomas et al and Brock et al discloses a layer of central core of randomly distributed glass stands which overlap in loops and a layer of glass fabric attached to both sides thereof per claims 53, 55 and 62, wherein all the layers are linked together by stitching (Thomas) and/or heat bonding (Brock). Refer to central core of randomly distributed glass stands 37 which overlap and fabric layers 28 and 43 on both sides thereof in figure 1 and 5 in Thomas et al, along with column 3, lines 25-62. Refer to central core of randomly distributed glass stands which overlap 54 and fabric layers 50 and 52 on both sides thereof in figure 4 in Brock et al along with column 6, lines 10-28. Brock et al does not specifically disclose the continuous layer is formed of overlapping loops, however, column 3, lines 1 and 2 refers to US Pat. No. 3692618 (Dorschner et al), which discloses how to form this layer. In figures 6 and 7, along with column 3, lines 55-72, column 7, lines 44-65 and column 8, lines 50-68 in Dorschner et al the central layer is disclosed as a overlapping looped structure. With regards to claim 60, see column 3, lines 36-38 in Thomas et al.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 27-33, 35-39, 41, 47, 48, 54, 56-58 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Thomas et al or Brock et al.

Both Thomas et al and Brock et al discloses a layer of central core of randomly distributed glass stands which overlap in loops and a layer of glass fabric attached to both sides thereof, wherein all the layers are linked together by stitching (Thomas) and/or heat bonding (Brock). Refer to central core of randomly distributed glass stands 37 which overlap and fabric layers 28 and 43 on both sides thereof in figure 1 and 5 in Thomas et al, along with column 3, lines 25-62. Refer to central core of randomly distributed glass stands which overlap 54 and fabric layers 50 and 52 on both sides thereof in figure 4 in Brock et al along with column 6, lines 10-28. Brock et al does not specifically disclose the continuous layer is formed of overlapping loops, however, column 3, lines 1 and 2 refers to US Pat. No. 3692618 (Dorschner et al), which discloses how to form this layer. In figures 6 and 7, along with column 3, lines 55-72, column 7, lines 44-65 and column 8, lines 50-68 in Dorschner et al the central layer is disclosed as a overlapping looped structure. Both Thomas and Brock do fail to specifically disclose the central layer bonded with a bonder. Thomas does disclose binders are known to be used to set a layer of fibrous material into a developed arrangement (column 1, lines 28-35).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to either Thomas et al or Brock et al to use a bonder to set the core layer since Thomas discloses this is a known technique in the art. With regards to claims 28, 29, 31, 32, 36 and 37, it would be obvious to form the layer (s) of what ever mass per unit are is required for a particular application since the layers are formed of the same and/or similar materials as the applicant (i.e. glass as indicated

above). With regards to claim 30, see column 3, lines 36-38 in Thomas et al. With regards to claim 33, one would use what ever length strands are needed for a particular application in order to provide the desired properties there from. With regards to claims 35-39, it would be obvious to apply additional layer(s) in order to apply the properties there from to the composite. With regards to claim 41, see column 4, lines 64-66 in Thomas et al.

7. Claims 42-46 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Thomas et al or Brock et al as applied to claims 27-33, 35-39, 41, 47, 48, 54 and 56-59 above, and further in view of either Gracer (3197860) or Cancio et al (4298647).

The primary references disclose the invention substantially as recited except for the notches therein in order to aid in bending the composite.

Both Gracer and Cancio et al disclose it is known to form notches in a material in order to aid in bending thereof. Refer to column 3, lines 71-75 in Gracer and figures 1 and 2 in Cancio et al.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to the primary references to include notches therein, as is taught by Gracer and Cancio et al, in order to aid in bending thereof.

8. Claims 27-33, 35-39, 41, 47, 48, 53-58 and 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunbar (4911973) in view of the applicant's discussion of the prior art.

Dunbar discloses a layer of central core of randomly distributed glass stands (layer X) and a layer of glass fabric (layer O) attached to both sides thereof. Refer to column 3, lines 4-50. The core layer can comprise a binder (column 3, lines 4-18) and additional sewing can be used to hold together the layers (column 3, lines 51-59). The examiner deems that Dunbar differs from the instantly recited invention in that the core is not disclosed a layer of continuous stands forming overlapping loops.

However, on page 2, lines 26-32 of the specification, the continuous over-looping strand mat is known. This is the one the applicant uses for the core.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to Dunbar to substitute the known continuous over-looping strand mat for the continuous strand mat in Dunbar, since this would merely involve substituting one known mat for the other and would supply the properties associated with the mat to the final product (i.e. properties of the continuous stand mat versus the chopped strand mat).

Response to Arguments

9. Applicant's arguments with respect to claims 27-33, 35-39, 41-48 and 53-62 have been considered but are moot in view of the new ground(s) of rejection. The applicant does argue that Brock and Thomas fail to teach the over-looping strand mat. However, Thomas shows such as element 37 in figure 1. Brock, further evidenced by Dorschner et al, shows over-lapping loops as indicted above.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Loney whose telephone number is (571) 272-1493. The examiner can normally be reached on Mon, Tues, Thurs and Fri. 8AM-4PM, flex schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DJL;D.Loney
06/05/10

/Donald J. Loney/
Primary Examiner
Art Unit 1783